

University of Bahrain
College of Information Technology
Department of Computer Science
ITCS 311 Systems Analysis and Design

Midterm Examination

Semester II, Year 2004

Date: April 24, 2004, Time: 11.00-12:00

Name: _____

ID # : _____ **Section # :** _____

Marks:

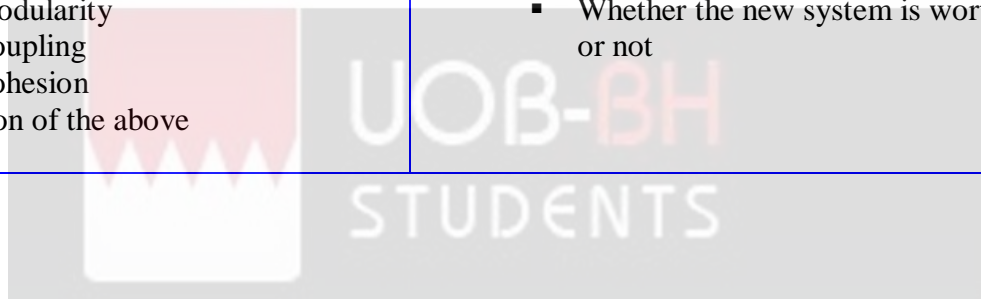
<u>Question #</u>	<u>Max marks</u>	<u>Marks obtained</u>
1	30	
2	20	
3	20	
4	30	
Total	100	

Notes:

- Make sure you have 7 pages including the cover Page
 - There are **4** questions. Answer **ALL** the questions.
 - Write your answers **clearly** in the space provided
 - If you use any extra space (on the back of the pages) mark the question numbers clearly.
 - Make sure you write your **name, ID#** and **section number** clearly.
 - If you have a mobile phone or pager, please **switch it off** before the test starts.
 - Remember that any one found **CHEATING** would automatically **FAIL THE COURSE**.
 - It is yours' responsibility to **hand over the answer** sheet to the invigilation staff.
 - " لا تنسى ان تدعو بما جاء به محمد صلى الله عليه وسلم " اللهم ماسهل الا ماجعلته سهلا وانت تجعل الصعب سهلا "
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Question # 1. (32 points) Choose the best answer, there is only one best answer.

<p>1. Information Systems Analysis and Design is</p> <ul style="list-style-type: none">▪ A method used by companies to create and maintain systems that perform basic business functions▪ Method that its main goal is to improve employee efficiency by applying software solutions to key business tasks▪ A structured approach must be used in order to ensure success▪ All the above	<p>2. Establish management procedures one of the project stages during:</p> <ul style="list-style-type: none">a. Initiating a projectb. Planning the projectc. Execution the projectd. Closing down the project
<p>3. A system which exists within environment and has a boundary is an interrelated set of business procedures used within one business unit working together for a purpose.</p> <ul style="list-style-type: none">a. Yesb. No	<p>4. Impartiality is one of the main characteristics of gathering requirements which mains Question everything</p> <ul style="list-style-type: none">a. Trueb. False
<p>5. Decomposition is a process which allows the systems analyst to compose small, manageable systems.</p> <ul style="list-style-type: none">a. Yesb. No	<p>6. I f there are two child level DFDs in any system, then how many data stores should be used:</p> <ul style="list-style-type: none">▪ Two data stores in both levels▪ Minimum one data store in each child level of DFD▪ Depend on storage requirements▪ User should decide
<p>7. Process of dividing a system into modules of a relatively uniform size where these modules simplify system design is called:</p> <ul style="list-style-type: none">a. Modularityb. Couplingc. Cohesiond. Non of the above	<p>8. A feasibility study determines</p> <ul style="list-style-type: none">▪ The security requirement of the system▪ The problem specifications▪ The design specification▪ Whether the new system is worth creating or not



Question # 1 contd:

<p>9. A system analyst is the person who:</p> <ul style="list-style-type: none">▪ Write code for the database management system▪ Identifies the requirements of the system and creates plans for the new one▪ Maintain the system▪ Is the head of the information department in the company?	<p>10. The process of selecting project a crucial step in system developing, suppose you have chosen a wrong project, but you do not know it until the middle of the project, what decision would you make about the project at this stage:</p> <ul style="list-style-type: none">▪ Project should be terminated and delete all records of it so the head of organization does not know it▪ Project should be continue because termination may create a reputation problem for you in the organization▪ Project should be stopped without delay and informed all concerns people▪ Ask another system analyst to do this project
<p>11. Closed ended questions are asked either in interview or questionnaire when</p> <ul style="list-style-type: none">▪ the number of the users is less than 10▪ when specific information is required about the security system of the project▪ response is required from a large number of users in the project▪ None of the above	<p>12. Which of the following fact-finding techniques is the most inflexible?</p> <ul style="list-style-type: none">▪ sampling▪ observation▪ questionnaires▪ interviews▪ research and site visits
<p>13. The procedure that is used to simplify entities, eliminate redundancy, and build flexibility and adaptability into the data model is called:</p> <ul style="list-style-type: none">▪ structured analysis and design▪ information engineering (or information modeling)▪ normalization▪ classical/traditional design▪ logical design	<p>14. Which of the following describes a data flow?</p> <ul style="list-style-type: none">▪ a. creates inputs and outputs to and from the processes▪ b. creates the name of the process▪ c. creates the boundary of the system▪ d. creates files or databases▪ e. all of the above
<p>15. Execution the Project include the following activities:</p> <ul style="list-style-type: none">▪ Describe project scope, alternatives and feasibility▪ Divide the project into manageable tasks▪ Estimate resources and create a resource plan▪ Develop a preliminary schedule▪ Non of the above	<p>16. Planning the Project include the following activities:</p> <ul style="list-style-type: none">▪ Determine project standards and procedures▪ Identify and assess risk▪ Create a preliminary budget▪ Develop a statement of work▪ Set a baseline project plan▪ All the above and more

Question #2 (20 points) Consider the following task description and constraints for

Description	Task	Must follow	Time (days)
Task1	A	None	10
Task2	B	A	2
Task3	C	A	7
Task4	D	C,B	10
Task5	E	D	3
Task6	F	E	15

a. Draw a Gantt chart using the above information.

b. Draw a PERT Diagram using the above information and show us the critical path.



Question #3 (20 points) Simplify the following decision table.

Conditions	1	2	3	4	5	6	7	8
▪ Condition 1	Y	Y	Y	Y	N	N	N	N
▪ Condition 2	Y	Y	N	N	Y	Y	N	N
▪ Condition 3	Y	N	Y	N	Y	N	Y	N
Actions								
▪ Action 1	X	X	X	X	X	X	X	
▪ Action 2	X		X		X		X	
▪ Action 3								X



Question # 4 (10+20 = 30 points) Consider the following system:

When a student wants to enroll in a course, he makes a class request to the enrollment department. There are 3 officers in the enrollment department. After receiving the request, one officer enroll the student in the course (details of enrollment are described in the next paragraph) and store the student and course data into a student-class file. Another one is responsible for collecting student fee payment, issuing receipts and handling payment information of a student payments file. There is one more officer producing different reports to different people. He will produce a student schedule to the student who has been enrolled in a course, produce a class roster to the corresponding professor, and produce enrollment statistics to register.

After a student has raised a request, the officer needs to check for an open section from a classes offered file. If a section is available, he will check prerequisites of the student by referring the student master file and course master file. After this checking is completed, he helps the student enrolling in the course by updating the classes offered file and the student class

Design the DFD for the above system (with complete details). Make sure that all levels (Context and 0-Level only) of the DFD are shown clearly.

Context DFD?



0-Level DFD (detailed Diagram)?

